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Adoption in the 1980's

by Christine A. Bachrach, Ph.D., National Institute of Child Health and Human Development
Patricia F. Adams, Division of Health Interview Statistics, National Center for Health Statistics
Soledad Sambrano, Ph.D., Administration for Children, Youth and Families
Kathryn A. London, Ph.D., Division of Vital Statistics, National Center for Health Statistics

Introduction

Adoption has long provided a mechanism for the care of children whose biological parents are unable to provide for them and an alternative means of creating a family for couples unable to have biological children. During most of the 1970's and 1980's, when legal abortion and the development of new reproductive technologies created additional alternatives to unwanted pregnancy and infertility, there has been a need for information on adoption trends, on the characteristics of children placed for adoption, on the characteristics of adoptive families and persons seeking adoption, and on the outcomes for children, biological parents, and adoptive parents. This information is necessary for formulation of adoption policies at the Federal level as well as for State and local public child welfare agencies. Three major developments in recent years have heightened the need for information: (1) the emphasis on finding permanent homes for children in the foster care system; (2) the belief that all waiting children are "adoptable"; and (3) the belief that foster families could serve as permanent families for children who could not return to their own families.

Despite the salience of these issues, information about adoption in the United States is very limited. Information on adoptions arranged through the public sector has been available since 1982, when the Office of Human Development Services implemented the Voluntary Cooperative Information System (VCIS) to collect data annually from State child welfare agencies on children in substitute care (1). National estimates of all types of adoption have not been produced by the Federal Government since the mid-1970's (2). Estimates have been developed by a private organization for 1982 and 1986, but are subject to variability in the completeness of reporting from State to State (3,4). These national estimates are used for indicating likely trends in adoption and for describing a limited number of characteristics, but cannot be used to assess the determinants and consequences of adoption on the individual level.

This report presents information on adoptions reported by a national sample of women 20–54 years of age in 1987. Results suggest that the proportion of ever-married women 20–44 years of age who have ever adopted may have declined during the mid-1980's; that the proportion of unrelated adoptions (those in which the adoptive parent and child are not related before the adoption) in which children are placed in adoptive homes as infants may be lower in the 1980's than in the 1970's; and that the proportion of unrelated adoptions involving white adoptive mothers was lower in the 1980's than in the 1970's. The results also indicate that the proportions who have adopted unrelated children are lower among black women and women of Hispanic origin than among nonminority women, and lower among women of low socioeconomic status, as indicated by educational and income level, compared with their more advantaged counterparts. Interracial adoptions, which constituted about 8 percent of all adoptions reported by women 20–54 years of age, consisted primarily

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National Center for Health Statistics
Manning Feinleib, M.D., Dr. P.H., Director

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of the adoption of children of races other than black or white by white adoptive mothers.

Data and methods

Survey data on adoption have been collected by the National Center for Health Statistics (NCHS) periodically since 1973. By providing measurement on an individual basis, such data may add substantially to the understanding of factors that influence adoption and its outcomes. However, most survey data on adoption are extremely limited. Adoption takes place rarely, and affects only a small fraction of the population. As a result, extremely large national surveys are required to produce sufficient numbers of cases for detailed analyses of adoption. Previous reports based on the NCHS survey the National Survey of Family Growth (NSFG) have been useful in providing some basic estimates of adoption, relinquishment, and social and economic outcomes, but have been severely limited in scope and precision by the small numbers of cases available for analysis (5–8).

In the mid-1980's, NCHS and the Administration for Children, Youth and Families (ACYF) initiated a collaborative effort to improve the precision and usefulness of survey data on adoption by expanding the range of adoption items included in the NSFG and including a comparable set of basic items on another large national survey conducted by NCHS—the National Health Interview Survey (NHIS). As a result of this effort, a comparable set of questions on adoption was asked of more than 30,000 women 20–54 years of age participating in the 1987 NHIS, and of more than 8,400 women 15–44 years of age participating in the 1988 NSFG. Because the samples for these two surveys were selected from the same sampling frame, the results can eventually be combined to produce estimates of greater precision than either would produce alone. This report presents estimates based on the data collected in the 1987 NHIS along with comparative estimates based on the 1982 NSFG.

The purpose of adoption items on the NHIS questionnaire was to provide information on the characteristics of women who adopt and on the adoptions themselves. Women were asked if they had ever adopted a child and, if so, the number adopted. Information on the date of birth, place of birth (United States or other), date of adoptive placement, relationship to the child before the adoption, and means of arranging the adoption was collected for up to two (most recently adopted) children. In addition, a broad range of social, demographic, and health information was collected about the women and about those adoptive children who were still living in the home.

Questions were directed to women 20–54 years of age both because this age group is believed to account for the vast majority of adoptions and also to avoid double counting of adoptions involving both male and female petitioners (adoptive parents). The limitation to females differentially affects estimates of unrelated adoptions and related adoptions. Related adoptions include adoptions of stepchildren and other children related to the adoptive parent by blood or marriage. Unrelated adoptions include adoptions where no prior relationship existed between adoptive parent and child, and adoptions of foster children by their foster parents. Estimates of unrelated adoptions are not materially affected by the limitation to females because the vast majority involve a married couple (9). However, related adoptions are underestimated to the extent that such adoptions, a large proportion of which are stepparent adoptions, involve only male petitioners. Unrelated adoptions are of particular interest because they are most likely to signal a real change in parenthood. In related adoptions, the adoption signals a formalization of a preexisting relationship that may or may not have been previously characterized by parenting.

Data collected in the NHIS were evaluated carefully for internal consistency, comparability to previous survey data and to existing national estimates relating to adoption. Results of this evaluation, along with procedures for estimating standard errors of estimates, are provided in the technical notes.

Adoption trends and differentials in the 1980's

The percent of ever-married women who have ever adopted a child is presented in table 1 according to relationship to the adopted child and other selected characteristics. To facilitate comparisons over time, data from both the 1987 NHIS and the 1982 NSFG are limited to ever-married women 20–44 years of age, the age group for which comparable questions were asked in both surveys.

The estimates in table 1 suggest a decline in adoption during the 1980's. The estimated proportion of those who had ever adopted any child was 2.2 percent in 1982 and 1.7 percent in 1987. The estimated proportion of those who had ever adopted an unrelated child was 1.7 percent in 1982 and 1.3 percent in 1987. The apparent decline in the adoption of unrelated children is most striking in those age groups where adoption typically occurs most frequently: the late twenties and early thirties. However, these differences between 1982 and 1987 are not statistically significant. Estimates for both years, but those particularly for 1982, lack sufficient precision to say with reasonable certainty that a decline in adoption has taken place. However, similarity between the estimates for 1982 and those for earlier years (5,6), and close correspondence between the estimates from the 1987 NHIS and unpublished preliminary estimates based on the 1988 NSFG, increase confidence that a decline in adoption did occur.

Previous studies of adoption based on survey data have indicated substantial differences in the likelihood of having adopted, differences according to age, marital status, the number of biological children ever born, and the ability to bear children (5,6,8). These results

Table 1. Number of ever-married women 20–44 years of age and percent who ever adopted a child, by relationship to child before the adoption, and selected characteristics: United States, 1982 and 1987

[Data are based on household interviews of the civilian noninstitutionalized population. The survey designs, general qualifications, and information on the reliability of the estimates are given in the technical notes]

Characteristic	Number of ever-married women in thousands	Relationship to child		
		Any child[1]	Unrelated child	Related child
		Percent		
1987 National Health Interview Survey				
Total[2]	38,077	1.7	1.3	*0.4
Age at interview:				
20–24 years	4,598	*0.1	*0.1	*0.0
25–29 years	8,218	0.6	*0.3	*0.2
30–34 years	9,186	1.5	1.1	*0.3
35–39 years	8,799	2.4	1.9	*0.3
40–44 years	7,277	3.4	2.8	*0.4
Marital status:				
Currently married	31,695	1.8	1.4	0.2
Previously married	6,382	1.3	1.0	*0.4
Race:				
White	32,894	1.8	1.4	0.2
Black	3,770	1.5	*0.8	*0.6
Hispanic origin:				
Hispanic	3,111	*0.8	*0.4	*0.4
Non-Hispanic	34,788	1.8	1.4	0.3
Education:				
Less than 12 years	5,367	1.0	*0.5	*0.5
12 years	16,705	1.5	1.1	*0.2
13 years or more	15,842	2.2	1.9	*0.2
Family income:				
Below poverty	3,614	*0.9	*0.4	*0.5
At or above poverty	32,393	1.9	1.5	0.2
Under $15,000	6,399	0.9	*0.4	*0.4
$15,000–24,999	7,482	1.6	1.2	*0.3
$25,000–34,999	7,398	1.8	1.4	*0.2
$35,000 or more	12,713	2.3	1.9	*0.2
1982 National Survey of Family Growth				
Total[2]	34,253	2.2	1.7	*0.4
Age at interview:				
20–24 years	4,818	*0.7	*0.0	*0.7
25–29 years	7,778	*0.9	*0.9	*0.0
30–34 years	8,218	*3.1	*2.9	*0.3
35–39 years	7,349	*2.1	*1.6	*0.4
40–44 years	6,090	*4.3	*2.9	*0.9
Marital status:				
Currently married	27,620	2.2	1.8	*0.3
Previously married	6,633	*2.5	*1.5	*1.0
Race:				
White	30,419	2.3	1.9	*0.3
Black	3,440	*1.6	*0.9	*0.8
Hispanic origin:				
Hispanic	2,773	*0.7	*0.2	*0.6
Non-Hispanic	31,480	2.4	1.9	*0.4
Education:				
Less than 12 years	6,576	*1.6	*0.4	*1.2
12 years	14,844	*2.3	*2.0	*0.2
13 years or more	13,515	*2.5	*2.1	*0.3
Family income:				
Below poverty	4,128	*2.2	*0.8	*1.4
At or above poverty	30,807	2.3	1.9	*0.3
Under $15,000	7,014	*2.3	*1.6	*0.7
$15,000–24,999	7,575	*2.0	*1.8	*0.3
$25,000–34,999	6,326	*2.8	*2.7	*0.2
$35,000 or more	8,558	*2.3	*1.7	*0.3

[1] The sum of the percents who adopted unrelated and related children may not equal the percent who adopted any child because of missing information and women who adopted children in both categories.

[2] Includes women of other races and women for whom information on specific characteristics is not ascertained.

have shown, not surprisingly, that adoption is most likely among married couples who are unable to have biological children and that the likelihood of having adopted increases with age. These studies have also noted tendencies for adoption to occur most commonly among couples of high socioeconomic status, but the studies have lacked the precision to demonstrate such relationships conclusively. The greater precision of the NHIS data provides an opportunity to reexamine the extent to which adoption varies among different groups in the population.

Results of the NHIS, shown in the top panel of table 1, confirm the expected relationship between age at the time of survey and the likelihood of ever having adopted a child. Less than 1 percent of ever-married women in their twenties, 2 percent of women in their thirties, and 3 percent of women in their forties had adopted a child at some time in their lives. This relationship results primarily from the fact that older women have had more time to discover that they cannot have biological children and to initiate and complete the adoption process. Differences by marital status in the percents adopting were not statistically significant: Women who were married at the time of the survey and women who were not married but had been married previously were about equally likely to have adopted by the time of the survey. However, this does not mean that marital status has no effect on the likelihood of adoption: As previous studies have shown, the overwhelming majority of adopting parents are married at the time of the adoption (5).

The percents of white and black ever-married women who had ever adopted any child were similar (1.8 and 1.5 percent, respectively). However, the percent who had adopted an unrelated child was substantially higher among white women (1.4) than among black women (0.8). By contrast, black women appeared more likely to have adopted a child related to them than white women (0.6 percent compared with 0.2 percent), although the statistical significance of this difference fell short of the 5-percent level.

Women of Hispanic origin were significantly less likely to have adopted a child or to have adopted a child unrelated to them than women who were not of Hispanic origin. Among non-Hispanic women 1.8 percent had adopted a child and 1.4 percent had adopted an unrelated child, compared with 0.8 percent and 0.4 percent, respectively, of Hispanic women. The percents reporting having adopted a related child were similar among these two groups of women.

Results shown in table 1 also indicate a positive association between educational attainment and the likelihood of having adopted. Women who had completed at least 1 year of college were more than twice as likely to have adopted than women who had not finished high school (2.2 compared with 1.0 percent), and they were nearly four times as likely to have adopted a child unrelated to them (1.9 compared with 0.5 percent). Although differences were not statistically significant, women with lower educational attainment appeared somewhat more likely to have adopted related children than women with higher educational levels.

Results by family income followed a similar pattern: Women with family incomes below the poverty level were less likely to have adopted any child, and less likely to have adopted an unrelated child, compared with women whose family incomes equaled or exceeded the poverty level. Differences by absolute levels of family income were similar: The percent who had adopted any child and the percent who had adopted an unrelated child were both lowest at the lowest income level and highest among those with the highest incomes. Related adoption did not differ significantly by poverty or income level, but appeared to be highest at the lowest income levels.

Estimates from the 1982 NSFG, shown in the lower panel of table 1, display similar patterns of adoption by age, marital status, race, Hispanic origin, educational attainment, and family income in most but not all cases. Their similarity adds to the confidence that the patterns of differentials observed in 1987 reflect true population differences. Interpretation of the NSFG data is limited, however, by its lack of precision (most statistics have relative standard errors in excess of 30 percent). Because of this, many differences are not statistically significant.

These results clearly indicate a lower prevalence of unrelated adoption among members of minority groups such as black and Hispanic women, and among those with relatively low socioeconomic status, as indicated by educational attainment and poverty. Because minority women are disproportionately poor and of low educational attainment, it is very likely that these findings are interdependent. Minority women may adopt unrelated children less often because they lack the required economic resources, or because of other factors such as higher marital instability, lower levels of childlessness, or less favorable attitudes toward the adoption of strangers. When minority or poor women do adopt, these data clearly suggest they are most likely to adopt a related child. This pattern may reflect a greater orientation toward the extended family as a mechanism for providing for children in need of care among these groups, or a greater pool of related children needing care from which to adopt.

Characteristics of adopted children

Characteristics of children adopted by women 20–54 years of age in 1987 are shown in table 2. This table is limited to unrelated adoptions, because related adoptions are incompletely represented by the NHIS. Estimates are shown for all adoptions, and for those occurring during the 1970's and 1980's separately. All estimates, especially those for adoptions in a given decade, are characterized by relatively high standard errors. Small or even moderate changes in characteristics over time, therefore, may not reflect actual change in the population of

Table 2. Number of unrelated children ever adopted by women 20–54 years of age and percent distribution by selected characteristics, according to year of adoption: National Health Interview Survey, 1987

[Data are based on household interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in the technical notes]

Characteristic	Year of adoption		
	All years[1]	1970–79	1980–87
	Number in thousands		
All children[2]	1,061	404	315
	Percent distribution		
Total	100.0	100.0	100.0
Child's place of birth			
United States	91.4	88.4	90.3
Foreign country	8.6	11.6	9.7
How adoption arranged			
Public agency	40.7	41.4	36.5
Private agency	35.3	35.8	35.4
Independent	23.9	22.7	28.1
Age of child at placement			
Under 1 year	81.1	82.9	72.8
1 year	5.1	*3.7	9.0
2 years	*3.4	*2.9	4.6
3–5 years	*3.6	*5.1	3.3
6 years or over	6.7	*5.6	10.3
Child's current health status[3]			
Any limitation or fair or poor health	8.7	---	---
No limitation and good, very good, or excellent health	91.3	---	---
Age of adoptive mother at placement			
24 years or under	12.7	---	---
25–29 years	34.2	---	---
30–34 years	35.4	---	---
35–39 years	13.3	---	---
40 years or over	4.4	---	---
Race of adoptive mother			
White	93.2	96.0	87.0
Black	4.5	*3.6	9.0
Other	*2.3	*0.4	4.1
Hispanic origin of adoptive mother			
Hispanic	*2.5	*3.5	3.0
Non-Hispanic	97.5	96.5	97.0
Education of adoptive mother			
Less than 12 years	6.6	*9.0	1.9
12 years	39.4	38.8	32.5
13 years or more	54.0	52.3	65.6
Race of adoptive mother and child[3]			
Same race	92.4	---	---
White	85.4	---	---
Black	5.9	---	---
Other	*1.1	---	---
Different race	7.6	---	---
White mother, black child	*1.2	---	---
White mother, child of race other than black	4.8	---	---
Mother of other race, white child	*1.6	---	---
All other	*0.0	---	---

[1] Includes adopted children for whom date of adoption not ascertained and children adopted before 1970.
[2] Includes adopted children for whom information on specific characteristics is not ascertained; percent distributions based on known cases.
[3] Based on adoptive children known to be living in household with adoptive mother at time of survey.

adopted children. Even those comparisons that meet the criterion of statistical significance must be interpreted with caution, because in estimates based on a sample some significant differences will occur by chance.

Among all unrelated adoptions reported by women 20–54 years of age in 1987, about 9 percent involved children born outside the United States. Despite the fact that data from the Immigration and Naturalization Service (INS) show a doubling in the number of immigrant children admitted to the United States for the purpose of adoption—from nearly 5,000 in 1981 to more than 10,000 in 1987 (3,10)—the NHIS-NSFG estimate for foreign adoptions occurring during the 1980's is not significantly different from that for the 1970's. Because the INS data are widely believed to be accurate, it is likely that the absence of an increase in the NHIS data results from sampling or reporting errors (see the technical notes for a discussion of sampling error).

Since the mid-1970's, national estimates of adoptions have been limited mainly to those arranged through State social service agencies, but almost no information has been available on the percent of all adoptions arranged in this way. As of 1975, the last year for which a Federal agency published national adoption estimates, 39 percent of unrelated adoptions were arranged through public agencies, 38 percent through private agencies, and 23 percent independently, through lawyers or other means (11). Estimates made by the National Committee For Adoption for 1982 and 1986 indicated a similar percent arranged through public agencies (38 in 1982 and 39 in 1986), a lower percent arranged through private agencies (29 in both 1982 and 1986), and a higher percent arranged independently (33 percent in 1982 and 31 percent in 1986) (3,4).

Estimates based on NHIS data (table 2) are generally consistent with

these earlier estimates. Overall, 41 percent of unrelated adoptions were arranged through public agencies, 35 percent through private agencies, and 24 percent independently. Differences between adoptions in the 1970's and 1980's were not statistically significant, but they do suggest a slightly higher percent arranged independently in the 1980's (28 percent versus 23 percent), consistent with data from the National Committee For Adoption.

There is some evidence from the estimates in table 2 that suggest that the proportion of unrelated adoptions involving children placed into adoptive homes as infants may have declined. For adoptions occurring in the 1970's this proportion was 83 percent; for those occurring in the 1980's, the estimated proportion was 73 percent. The difference, however, was significant at only the 10-percent level. An apparent increase in the percent of unrelated children adopted at 6 years of age or older was not statistically significant. A decline in the proportion of adopted children placed as infants could be of some concern in view of evidence suggesting that the older the child at the age of adoption, the greater the likelihood of behavior and learning problems (12). Viewed differently, however, such a decline could also reflect success in placing older children in permanent homes.

By linking information on adoptions reported by mothers with information on the children themselves, estimates were derived of the current health status of adopted children who were still living in the household at the time of the survey (about 78 percent of all unrelated adoptions). These estimates indicate that the vast majority of adopted children are in good health: Only about 9 percent reported any limitation in activities due to health problems or reported health to be only fair or poor. Furthermore, adopted children appear to be as healthy as children in general: The percent of adopted children who were limited in activities and the percent in fair or poor health were similar to those observed for all children under 18 years of age (13).

Data on the age of the adoptive mother at the time of the adoption confirm the findings of earlier studies that most adoptions involve adoptive mothers between the ages of 25 and 34. About 70 percent of unrelated adoptions to women 20–54 years of age in 1987 had involved women in this age range, a percent similar to that observed for women 15–44 years of age in the 1982 National Survey of Family Growth (76 percent) (5). Estimates by age of mother are not shown by decade of adoption because of truncation bias: Women adopting in the 1970's are less likely to be represented in the NHIS adoption data the greater their age at adoption. For example, a woman who adopted in 1970 at age 40 would be 57 at the time of the NHIS survey, and she therefore would not have been asked about adoption. A woman who adopted in 1970 at age 30 would be only 47 at the time of the survey, and she would have been asked these questions and represented in the data. Because of this systematic bias, comparisons by decade in the age at adoption would be misleading.

The overwhelming majority (93 percent) of unrelated adoptions by women 20–54 years of age in 1987 involved white adoptive mothers, but there is some evidence that this percent may have declined. The estimated percent involving white mothers was 96 among adoptions occurring in the 1970's, and 87 among those occurring in the 1980's. This difference was statistically significant at the 5-percent level. There were apparent increases in the percent of unrelated adoptions involving both black mothers and mothers of other races between the two decades, but both fell short of the 5-percent significance level. Mothers of Hispanic origin accounted for only 2.5 percent of all unrelated adoptions by women 20–54 years of age in 1987, and there was no evidence of any change between the 1970's and 1980's.

Given the higher proportions of women who had ever adopted unrelated children among college-educated women than among women who had not completed high school, observed in table 1, it is not surprising that more than half of unrelated adoptions involved mothers with at least some college education. This proportion appears to have increased between the 1970's and 1980's, from slightly more than half to nearly two-thirds, but this apparent change is significant at only the 10-percent level. A parallel decline in the percent of unrelated adoptions involving women who had not completed high school, from 9 percent during the 1970's to 2 percent during the 1980's, was significant at the 5-percent level. These changes may reflect general advances in the educational attainment of women of childbearing age over the 2 decades as well as a greater concentration of unrelated adoptions among the more advantaged segments of the population in the 1980's.

Interracial adoption

Researchers and policymakers seeking estimates of the prevalence of interracial adoption in the United States have had few resources with which to work. In 1975, the most recent year for which such estimates were available, the necessary data were reported by only 23 States. Of the nearly 12,000 unrelated adoptions reported by these States, 16 percent involved parents and children of different racial or ethnic groups, and about 2 percent involved black children placed with parents who were not black (9).

Estimates of interracial adoption were derived from the 1987 NHIS by linking information on the race of the adoptive mother with that of the adopted child. Estimates are limited to adoptions in which the child was still living in the adoptive mother's household at the time of the survey. Of these adoptions, only 8 percent involved parents and children of different races. Five percent were adoptions of children of races other than white or black by white mothers, 1 percent were adoptions of black children by white mothers, and 2 percent were adoptions of white

children by mothers of other races. No instances of interracial adoption by black mothers or of black children by mothers of races other than white were apparent in the NHIS data. Because many of these interracial adoptions are likely to involve children born outside the United States, the prevalence of interracial adoption among U.S.-born children may be quite low.

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Technical notes

The National Health Interview Survey (NHIS) is a continuous cross-sectional nationwide survey conducted by household interview. Each week a probability sample of households in the civilian noninstitutionalized population of the United States is interviewed by personnel of the U.S. Bureau of the Census to obtain information on the health and other characteristics of each member of the household. A description of the survey design, methods used in estimation, and general qualifications of the NHIS data is provided in Current Estimates from the National Health Interview Survey: United States, 1987 (13).

The NHIS sample for 1987 was composed of 47,240 households containing 122,859 persons. The total noninterview rate was 4.7 percent. Questions on adoption were asked of all women 20–54 years of age enumerated in the NHIS household. Of a total of 31,124 such women, 566 reported ever having adopted a child; 416 had adopted one child; 128 had adopted two; and 22 had adopted three or more. If more than two children were adopted, detailed information was obtained only for the two children adopted most recently. Information was obtained for 716 adopted children, including 555 who were reported to be unrelated to the adoptive mother before the adoption. Additional information on topics such as health and demographic characteristics collected in the core NHIS interview is available for up to two most recently adopted children who were still living in the NHIS household at the time of the interview.

The National Survey of Family Growth (NSFG) is a periodic survey conducted by the National Center for Health Statistics to provide data on fertility, family planning, and related aspects of maternal and child health. The third cycle of the NSFG, conducted in 1982, is based on interviews with a national probability sample of 7,969 women 15–44 years of age. Detailed information on the design, procedures, estimation procedures, and reliability of sample estimates for the NSFG Cycle III is available elsewhere (14). Data on adoption from the NSFG Cycle III are presented in this report for comparative purposes. These data are based on the reports of 94 sample respondents who reported they had adopted one or more children.

Evaluation of data

The quality of data on adoption collected in the NHIS was assessed in several ways. Comparisons with earlier survey data indicated reasonable levels of consistency, taking into account sampling error and the likelihood of some change over time. Estimates were also compared with independent estimates of adoptions available on a national basis.

Estimates of yearly adoptions based on the NHIS data would be expected to fall short of the annual numbers of adoptions occurring nationally for several reasons. Men were not asked about adoption; nor were women outside 20–54 years of age. Adoptions that occurred many years before the survey would be particularly susceptible to undercounting, because a greater proportion of the adopting parents would have died, entered an institution, or attained age 55 and become ineligible for the questions. Because independent information on age of adopting parents is not available, it is impossible to assess what percent of adoptions in the years immediately preceding the survey would involve women outside 20–54 years of age. However, the percent is presumed to be relatively small. Exclusion of men should primarily affect the estimates of related adoptions, because most unrelated adoptions involve a married couple. Although current information is not available, estimates prepared by the National Center for Social Statistics show that only 0.4 percent of children adopted by unrelated petitioners in 1975 were adopted by men who were not married at the time of the adoption (8). Estimates of unrelated adoptions for the years immediately preceding the 1987 survey, therefore, should be relatively complete, and relatively less complete as time between the adoption and the survey lengthens.

To evaluate the completeness of adoption reporting in the NHIS, estimated numbers of annual adoptions of unrelated children were compared with independent national estimates for those years in which such data are available, and with comparable estimates based on the 1982 National Survey of Family Growth (15). Results are shown in table I. The estimates derived from the two surveys are three-year averages (for example, the estimate for 1980 is the average number of unrelated adoptions for the years 1979–81). They have also been adjusted for nonresponse to items on adoption, using the assumption that nonresponses to specific items would be distributed proportionately to responses. Standard errors for the adjusted 3-year totals on which the averages are based are shown in parentheses. Clearly, sampling error alone places a wide confidence interval around each of these annual estimates. However, the general level of the estimates is very much in line with the few estimates available that are based on annual State reports, and it is generally consistent as well with estimates based on the 1982 NSFG. The only years for which serious bias appears to exist are those before 1974, a bias that reflects the expected tendency for coverage to decrease as time since the adoption increases.

These estimates suggest that the NHIS provides relatively good coverage of unrelated adoptions. Much of the data presented by this report, however, is additionally affected by missing information on the items relating to adoption. For example, information on whether the woman had ever adopted was missing for 2.5 percent of women. Of the adopted children reported, information on the relationship before the adoption was missing for 7.4 percent. Of those adopted children known to

Table I. Estimates of number (with standard error) of unrelated adoptions by survey, annual State reports, and year of adoption

Year	Survey		Annual State reports
	1987 National Health Interview Survey	1982 National Survey of Family Growth	
1986	49,200 (7,700)	---	51,157
1985	43,300 (7,300)	---	---
1984	48,400 (7,700)	---	---
1983	44,100 (7,300)	---	---
1982	46,700 (7,500)	---	50,720
1981	43,500 (7,300)	67,700 (29,900)	---
1980	42,200 (7,200)	49,900 (25,700)	---
1979	46,600 (7,500)	58,400 (27,800)	---
1978	44,600 (7,400)	50,700 (25,900)	---
1977	47,200 (7,600)	46,900 (24,900)	---
1976	50,700 (7,800)	23,700 (17,700)	---
1975	50,900 (7,900)	25,400 (18,300)	47,700
1974	49,200 (7,700)	29,600 (19,800)	49,700
1973	38,100 (6,800)	40,200 (23,000)	59,200
1972	34,000 (6,400)	42,000 (23,600)	67,300

NOTES: Estimates are based on annual State reports for years 1972–75 as published in Maza, 1984. Estimates for 1982 and 1986 are from National Committee For Adoption, 1985 and 1989. All estimates are based on incomplete data and adjusted to approximate national totals. Estimates based on survey data are 3-year averages adjusted for nonresponse. Standard errors for 3-year averages are shown in parentheses.

be unrelated, information for year of the adoption and how the adoption was arranged were each missing for 3.2 percent, although information on place of birth was complete. In addition, information was ascertained only for the two children adopted most recently by each woman. Other adopted children for which no effort was made to ascertain information constitute approximately 3 percent of the adoptions reported by NHIS respondents. To the extent that children for whom information is unavailable differ from those for whom it is, the results shown in this report will be biased.

Reliability of estimates

Because the estimates shown in this report are based on samples of the population rather than on the entire population, they are subject to sampling error. A measure of sampling error is given by the standard error. Appropriate standard errors for estimated percents in tables 1 and 2 of this report are given by the formula

$$\mathrm{SE}(p) = \sqrt{\frac{bp\,(100-p)}{y}}$$

where SE is the standard error, p is the estimated percent, b is the parameter associated with the numerator characteristics, and y is the denominator. The b parameter is 3,640 for estimates based on NHIS data, approximately 39,809 for estimates relating to white women or women of all races from NSFG Cycle III data, and approximately 6,346 for NSFG Cycle III estimates relating to black women. The approximate standard error of a difference between percents is given by the formula

$$\mathrm{SE}(x_1 - x_2) = \sqrt{\mathrm{SE}(x_1)^2 + \mathrm{SE}(x_2)^2}$$

where x_1 and x_2 are the two percents being compared, $x_1 - x_2$ is the difference between them, and $\mathrm{SE}(x_1)$ and $\mathrm{SE}(x_2)$ are the standard errors of the two percents.

The relative standard error of a statistic is the ratio of the standard error to the statistic. Estimates with relative standard errors of 30 percent or greater are indicated with asterisks. The reader may wish to combine these estimates with related estimates to produce a more reliable overall estimate for a broader category.

In this report, terms such as "similar" and "the same" mean that no statistically significant difference was detected between the statistics being compared. Terms relating to difference (for example, "greater" or "less") indicate that differences are statistically significant. A two-tailed t-test was used to test all comparisons discussed. A difference was considered statistically significant at the 5-percent level if the difference $(x_1 - x_2)$ was at least 1.96 times as large as its standard error, and as statistically significant at the 10-percent level if it was at least 1.65 times as large as its standard error. Because the statistics presented in this report have relatively high standard errors, the failure to detect a statistically significant difference between two statistics does not necessarily mean that no such difference exists in the population. Lack of comment regarding the difference between any two statistics does not mean that the difference was tested and found to be not significant.

Symbols	
- - -	Data not available
. . .	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision
#	Figure suppressed to comply with confidentiality requirements

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